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Regional integration in Africa : Challenges and prospects*

A contribution to the *Handbook of Africa and Economics*

Jaime de Melo
Yvonne Tsikata

Jaime de MELO is Emeritus Professor at the University of Geneva. His research focuses on trade policies, on trade and the environment, on the links between regionalism and multilateralism. He is Senior Fellow at Ferdi. **Jaime.demelo@unige.ch**

Yvonne TSIKATA is the World Bank Country Director for the Caribbean.
ytsikata@worldbank.org

Abstract

Political motives, geography, and the uneven distribution of gains trumped the traditional efficiency gains across Africa's Regional Economic Communities (RECs). The small, sparsely populated, fragmented, and often isolated economies across Africa make a compelling case for these economies to integrate regionally to reap efficiency gains, exploit economies of scale, and reduce the thickness of borders. But lack of complementarities among partners and diminishing returns to the exploitation of resources has reduced supply response to market-integration-oriented regional policies. Additionally, a very uneven distribution of resources has sharpened the trade-off between the benefits of common policies needed to tackle cross-border externalities and their costs, which are heightened by the sharp differences in policy preferences across members. African RECs have pursued the 'linear model' of integration with a stepwise integration of goods, labour, and capital markets, as well as eventual monetary and fiscal integration. With the exception of the franc zone, the RECs have not yet completed goodsmarkets integration; the lack of adjustment funds to address the uneven distribution of benefits across partners contributing to the delay. Estimates reported here reveal the shortcomings of the linear model of integration, as behind-the-border measures aiming to reduce trade costs were largely ignored across African RECs until recently. While this is probably due to the difficulty in gaining the confidence necessary to get collection action started, many behind-the-border measures could still have been undertaken unilaterally.

Keywords: regional integration, Africa, trade creation, trade diversion, Franc zone, trade liberalization
JEL classification: F6, F12, F15, F16

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Acronyms and abbreviations

ACP	African, Caribbean, and Pacific Group States
ADOT	Average Distance of Trade
ADR	Average Distance Ratio
AGOA	Africa Growth Opportunity Act
AMU	Arab Maghreb Union
AU	African Union
CEMAC	Economic and Monetary Community of Central African States
CET	Common External Tariff
CGE	Computable General Equolibrium
COMESA	Common Market for Eastern and Southern Africa
CU	Customs Union
DB	Doing Business (World Bank)
DOTS	Direction of Trade Statistics
EAC	East African Community
EBA	Everything But Arms
ECCAS	Economic Community for Central African States
ECOWAS	Economic Community of West African States
ESCC	European Steel and Coal Community
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Area
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GSP	Generalized System of Preferences
LDCs	Least Developed Countries
MFN	Most-Favoured-Nation
NEPAD	New Partnership for Africa's Development
NTB	Non-Tariff Barriers
OECD	Organisation for Economic Co-operation and Development
PAFTA	Pan Arab Free Trade Area
PTAs	Preferential Trade Agreements
RECs	Regional Economic Communities
RoO	Rules of Origin
RTAs	Regional Trade Agreements
SACU	Southern African Customs Union
SADC	Southern African Development Community
SSA	Sub-Saharan Africa
TC	Trade Creation
TCI	Trade Complementarity Index
TD	Trade Diversion
TP	Trade Propensity
UEMOA	West African Economic and Monetary Union
WDI	World Development Indicators
WTO	World Trade Organization

1 Introduction and overview.

Over the last thirty years, Regional Integration Agreements (also referred to as Regional Trade Agreements (RTAs) or Preferential Trade Agreements (PTAs) to underline that these agreements almost always involve preferential access) have been spreading everywhere including across Africa (see Figure 1) where they have also been called Regional Economic Communities (RECs). During the period, the landscape of PTAs has changed drastically. In the late 1970s, North-South PTAs represented almost 60 per cent of all PTAs while South-South PTAs represented only 20 per cent. By 2010, two-thirds of PTAs were South-South and North-North only one-quarter. In 2010, the 58 African countries were involved in 55 PTAs, of which 43 were South-South and 12 were North-South. PTAs have also increasingly become cross-regional. Of the 55 African PTAs, 31 are cross-regional.[1]

These changes in the landscape reflect an increasing participation of developing countries in world trade. In Africa especially—where 34 of the 50 least developed countries (LDCs) are located—the changes also reflect a shift of interest away from unilateral preferential trade provided by the generalized system of preferences (GSP), the Lomé and Cotonou agreements for ACP countries, and more recently the Everything but Arms (EBA) as well as Africa Growth Opportunity Act (AGOA). The lowering of trade barriers in Organisation for Economic Co-operation and Development (OECD) markets and the increasing number of beneficiaries of preferential access has eroded the value of these preferences.[2] This shift towards South-South integration also reflects a desire to include the LDCs into regional production networks. Further, it is a means to strengthen developing countries' bargaining power in multi-lateral trade negotiations. Notwithstanding the growing importance of trade in natural resources, African countries have remained bystanders in the stalling of the current multi-lateral negotiations. One way to acquire influence in the future is through successful regional integration.

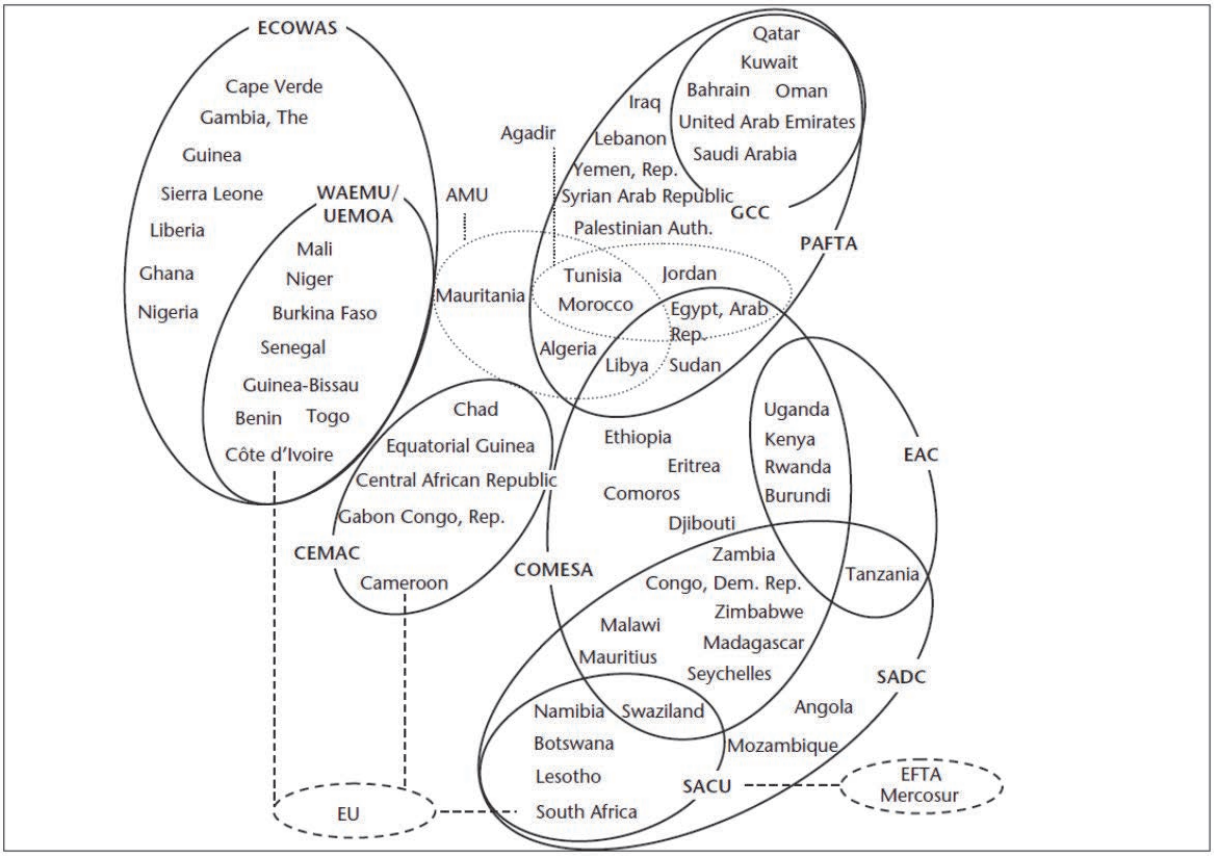
PTAs are good politics, but to survive they must extend beyond unfilled good intentions and have a sufficiently sound economic basis, the focus of this paper. Our assessment of the literature is that regional integration is the way ahead as there are many regional externalities that can only be addressed through regional co-operation. However, the linear model of integration from goods markets to monetary and fiscal integration has slowed the progress towards integration in the world economy. In addition to political benefits, reductions in trade barriers have helped to integrate markets, although this integration has been disappointing because of high trade costs documented here. Moving beyond removal of barriers at borders to the next stage of deeper integration has been even slower as African RTAs continue to be negotiated as an exchange of market access at the

[1] The regional classification follows the World Trade Organization (WTO) nomenclature. The WTO counts include notified and non-notified PTAs. The numbers are high because a PTA that includes goods and services is notified twice, and accessions to existing PTAs are counted as a new PTA. Thus, the steeply rising number of PTAs over the past 30 years reflects both a growing number of countries involved in PTAs and a growing number of memberships of each country. Figures are from WTO (2011, Table B1). This paper focusses on the economic effects of South-South African RTAs. It does not cover the North-South PTAs (e.g. the European Partnership Agreements or Euro-Med Agreements) viewed as less controversial, as northern partners are relatively close to the frontier in terms of cost efficiency, see Melo et al. (1992); Oyejide et al. (1999); Schiff and Winters (2003); and WTO (2011).

[2] The gains from receiving duty-free status are greatly reduced by the fact that most-favoured-nation (MFN) rates on traded goods are zero or close to zero. WTO (2011) estimates that, if preferences were fully utilized, all preferences together would reduce the global trade-weighted tariff from three to two per cent with a drop of only 0.1 due to the non-reciprocal preferences mentioned here. This is why the Introduction to a recent handbook on preferential trade agreements for developing countries is justly entitled 'Beyond Market Access' (Chauffour and Maur 2011).

expense of non-partners rather than as an exchange of domestic reforms for attracting the foreign direct investment (FDI), which would provide the backbone services necessary to participate in the growing fragmentation of production worldwide.

Figure 1: Regional arrangements in Africa



Source: Acharya et al. (2011, Figure 2.18); WTO Secretariat.

Note: AMU, Arab Maghreb Union; CEMAC, Economic and Monetary Community of Central Africa (Communauté Économique et Monétaire de l'Afrique Centrale); COMESA, Common Market for Eastern and Southern Africa; EAC, East African Community; ECOWAS, Economic Community of West African States; EFTA, European Free Trade Association; EU, European Union, GCC, Gulf Cooperation Council; Mercosur, Southern Cone Common Market; PAFTA, Pan-Arab Free Trade Area; SACU, Southern African Customs Union; SADC, Southern African Development Community; WAEMU/UEMOA, West African Economic and Monetary Union/Union Économique et Monétaire Ouest-Africaine.

Section 2 describes African RECs, their membership, main characteristics, and some of their objectives. Section 3 discusses the interplay of geography, politics, and efficiency; all strong arguments in favour of integration on a regional basis in Africa. Evidence is reviewed in Section 4. Challenges ahead are covered in Section 5.

2 The landscape of Africa's linear integration model

At a deep level, regional integration in Africa has its roots in the political forces determined by the colonial legacy that resulted in a configuration of geographically artificial states where arbitrary

borders coupled with great ethno-linguistic diversity contributed to the continent's high number of conflicts and to its high trade and communication costs (Alesina et. al. 2003; Alesina et al. 2011 and Portugal-Perez and Wilson 2009). In Africa as a whole, but in sub-Saharan Africa (SSA) in particular, the RECs were to be the 'building blocs' of the hoped-for African union in the immediate post-colonial era. Now, they are central for implementing the New Partnership for Africa's Development (NEPAD). In short, the RECs were and continue to be the glue that will cement African unity.

An early phase of integration started during the first decades of independence, and was enshrined in the Lagos Plan of Action, an initiative of the Organization for African Unity, adopted by the heads of states in 1980. The proposed framework was for African integration into pan-African unity and continental industrialization by the division of the continent into RECs that would constitute a united economy, the African Economic Community. Three regional integration arrangements were supported by the Economic Commission for Africa: Economic Community of West African States (ECOWAS); Common Market for Eastern and Southern Africa (COMESA), and the Economic Community for Central African States (ECCAS), and later, the Arab Maghreb Union (AMU).

This first phase corresponded to the heyday of central planning when faster industrialization would take place if carried out at the regional level under free trade among members with high tariff barriers applied to non-members, and during which an inward-looking integration also reflected a desire to develop independently from the former colonial masters. Economic unification would be the solution to Africa's development dilemma and, for many, to work it would require a political union. However, the leaders of these young post-independence African states were reluctant to encourage the erosion of national sovereignty and the emergence of a supra-national authority, which would have been necessary to co-ordinate and manage the affairs of the hoped-for African union. (Even in Europe, it took 30 years to accept the principle of subsidiarity).[3] In addition, as discussed below, the great diversity across Africa (resource-rich and resource-poor, coastal and landlocked, artificial borders, many ethnic groups and languages) translated into different interests that strengthened countries' insistence on the 'respect for the sovereignty and territorial integrity of each State and the inalienable right to independent existence' as written in the Organization of African Unity (OAU) charter of 1963. Commitment to pan-Africanism was weakened, leading to a vagueness and multitude of objectives (see some examples, Table 1), which helped states gloss over the issues that divided them.

The outcomes of the first phase of African PTAs were insightfully reviewed by Foroutan (1992). After observing that the gross national product (GNP) of SSA was about the same as Belgium's, she noted that it would be hard to imagine Belgium divided into 'forty-something independent countries, each with its own isolated goods and factor markets' (p. 234). She also pointed out that the skewed distribution of benefits resulting from the great disparity among members required large compensation from the gainers to the losers, large partly because regional trade was mostly inter- rather than intra-industry: Absent central funding raised by less distortionary means, funds were either obtained by distortionary taxes negating any efficiency gains from eliminating protection among partners, or trade barriers were not removed.[4] So, with the exception of integration of the

[3] Subsidiarity indicates that decision-making jurisdiction should coincide with a public good's spillovers (multilateral institutions for transnational public goods, regional institutions for regional public goods, such as infrastructure, especially for landlocked countries, and national institutions for national public goods.

[4] For example, in West Africa, preferential customs duties (e.g. the 'Taxe de coopération régionale' applicable to partners' industrial products were tailored to the 'protection needs' of the least advantaged partners. In Europe, France delayed progress towards deeper integration when it opposed the planned move in the Treaty of Rome from unanimity

franc zone in Economic and Monetary Community of Central African States (CEMAC) and West African Economic and Monetary Union (UEMOA) (see Table 1), implementation never reached the Free Trade Area (FTA) status, let alone deeper integration.

Starting in the 1980s, and later, following the end of the cold war, initiatives entered a second, more outward-looking, phase. Most were a revival of previous efforts that had either been abandoned, such as the East African Community (EAC), or not implemented, such as the Common Market for Eastern and Southern Africa COMESA, while others were new with significant membership overlap (see Figure 1) reflecting countries 'hedging their bets'. To this day, this overlap complicates the task of policy co-ordination and slows down attempts at 'deep integration' as large membership makes it difficult to reach consensus to delegate authority to regional bodies. For example, Zambia, is both a member of the COMESA Customs Union (CU)—which requires applying Common External Tariff (CET) to non-members—and of the Southern African Development Community (SADC) FTA, putting the country in a conflicting position.

Table 1 lists ten major PTAs along with some characteristics and objectives. Objectives are wide-ranging and ambitious, reflecting the desire to dissimulate the heterogeneity of interests. In addition to promoting industrialization, the objectives include harmonization of regulations and policies—Agadir Agreement; monetary unions—COMESA, EAC, Gulf Cooperation Council (GCC); promoting democracy (SACU); and expanding the development of the least-developed members—Pan Arab Free Trade Area (PAFTA) and Southern African Customs Union (SACU). The ECOWAS treaty calls for the establishment of a West African parliament, an economic and social council, and an ECOWAS court of justice to enforce community decisions. The community is also formally assigned with the responsibility of preventing and settling regional conflicts, which clearly indicates the importance of political objectives.

Of the ten PTAs listed in Table 1, only three have aimed for FTA status, all others aiming for deeper integration, with integration moving along the linear model of integration following a stepwise integration of goods, labour and capital markets, and eventually monetary and fiscal integration. Goods market integration would start with an FTA, then move on to a CU with a CET. Along this sequence, excluding SACU, none of the PTAs in Africa have yet reached full CU status as many goods are excluded from the CET; the COMESA CU launched in 2009 only requires countries to give a list of goods they wish to submit to the CET for a five year transition period. In the next phase, countries would move to a common market with integration of labour and capital markets culminating in a monetary union. For example, the EAC, the most advanced regional agreement among the six retained for further scrutiny, moved to a customs union in 2005, then to a common market in 2010, with the next planned step being a monetary union for 2015.

to majority voting in the European Council fearing that it would have to adopt policies it would oppose. The conflict over sovereignty was also apparent when several countries opted out of the Lisbon Treaty 2007, which further strengthens EU institutions and inches towards qualified majority voting.

Table 1: Main (WTO recognized) plurilateral preferential trade agreements in Africa

Abbreviation	Name of RTA	Type of Agreement	Members	Year Originated	Year Agreement Signed	Objective
AMU (11.56)	Arab Maghreb Union	Free Trade Area	Algeria, Libya, Mauritania, Morocco, Tunisia	1988	1989	- Economic and political unity among Maghreb countries.
Agadir (21.66)	Agadir Agreement	Free Trade Area	Egypt, Jordan, Morocco, Tunisia	2001	2004	- Establish an FTA among members prior to a Euro-Mediterranean FTA as envisaged in The Barcelona Process. - Boost competitiveness of their products into European Union (EU) markets; expand co-operation, commercial exchange and free trade between members. - Agadir Agreement spectrum includes customs, services, certificates of origin, government purchases, financial dealings, preventive measures, intellectual property, standards and specifications, dumping and mechanisms to resolve conflicts.
EMCC/CEMAC (6.24)	Economic and Monetary Community of Central Africa	Customs & Monetary Union	Cameroon, Central African Republic (L), Chad (L), Congo, Equatorial Guinea, Gabon	1959[1]	1994	- Create a common market based on the free movement of people, goods, capital and services. - Ensure a stable management of the common currency. - Secure environment for economic activities and business in general. - Harmonize regulations of national sectoral policies.
COMESA (8.04)	Common Market for Eastern and Southern Africa	Customs Union	Burundi (L), Comoros, DR Congo, Djibouti, Egypt, Eritrea, Ethiopia (L), Kenya, Libya, Madagascar, Malawi (L), Mauritius, Rwanda (L), Seychelles, Sudan, Swaziland (L), Uganda (L), Zambia (L), Zimbabwe (L)	1965[2]	1993	- Achieve sustainable economic and social progress in all Member States through increased co-operation and integration in all fields of development particularly in trade, customs and monetary affairs, transport, communication and information, technology, industry and energy, gender, agriculture, environment and natural resources.
EAC (12.07)	East Africa Community	Customs Union	Burundi (L), Kenya, Rwanda (L), Tanzania, Uganda (L)		1999	- Widen and deepen co-operation among Partner States in, among others, political, economic and social fields for their mutual benefit. To this extent the EAC countries established a Customs Union in 2005 and a Common Market in 2010. Enter into a Monetary Union and ultimately become a Political Federation of the East African States.
ECOWAS (7.23)	Economic Community of West African States	Trade, Currency, Political Union	Benin, Burkina Faso (L), Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali (L), Niger (L), Nigeria, Senegal, Sierra Leone, Togo	1965[3]	1975/1993	- Achieve a common market and a single currency. Provide for a West African parliament, an economic and social council and an ECOWAS court of justice to replace the existing Tribunal and enforce Community decisions. The treaty also formally assigned the Community with the responsibility of preventing and settling regional conflicts.
PAFTA (9.45)	Pan-Arab Free Trade Area	Free Trade Area	Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates, Yemen		1997	- Elimination of customs duties and other fees and duties having similar effects. - Eliminate all non tariff barriers, including Administrative, Monetary, Financial and Technical barriers. - Preferential treatment for least developed member states.
SACU (21.07)	Southern African Customs Union	Customs & Monetary Union	Botswana (L), Lesotho (L), Namibia, South Africa, Swaziland (L)	1910[3]	2002	- Facilitate the cross-border movement of goods between the territories of the Member States. - Create effective, transparent and democratic institutions to ensure equitable trade benefits to Member States. - Promote conditions of fair competition in the Common Customs Area and investment opportunities.
SADC (11.45)	Southern African Development Community	Free Trade Area	Angola, Botswana (L), Lesotho (L), Malawi (L), Mauritius, Mozambique, Namibia, South Africa, Swaziland (L), Tanzania, Zambia (L), Zimbabwe (L)	1980[4]	1996	- Enhance growth and poverty alleviaton; support the socially disadvantaged through Regional Integration. - Evolve common political values, systems and institutions; Promote and defend peace and security. - Promote self-sustaining development on the basis of collective self-reliance and the inter-dependence of Member - Achieve complementarity between national and regional strategies and programmes. - Achieve sustainable utilisation of natural resources and effective protection of the environment. - Strengthen and consolidate historical, social and cultural affinities .
WAEMU /UEMOA (10.33)	West African Economic and Monetary Union	Customs & Monetary Union	Benin, Burkina Faso (L), Côte d'Ivoire, Guinea-Bissau, Mali (L), Niger (L), Senegal, Togo		1994	- Increase competitiveness through open markets; rationalize and harmonize the legal environment. - Convergence of macro-economic policies and coordination of sectoral policies; create a Common Market. - The coordination of sectoral policies.
GCC (8.92)	Gulf Cooperation Council	Political & Economic Union	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates		1981	- Formulate similar regulations in religious, finance, trade, customs, tourism, legislation and administration. Establish a common currency.

Source: WTO (2013) RTA database http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx
Notes: [1]Creation of Equatorial Customs Union; [2]Creation of Preferential Trade Area for Eastern and Southern Africa; [3]First agreement signed; [4]Creation of Southern African Development Community; (L) for landlocked members.

Figures in parentheses are the Trade Complementality Index (TCI) of the respective RTAs at the year of agreement signed. $TCI_{ij} = 100\left[1 - \sum_k \frac{\left|m_k^i - x_k^j\right|}{2}\right]$, where m_k^i is product k's share in country i's total imports, x_k^j is product k's share in country j's export to the world. A maximum score of 100 indicates that the two countries are ideal trading partners. A lower score indicates that the two countries export similar products and there may not be much scope in expanding one's exports to the other. In comparison, European Common Market has a TCI of 41.71 in 1962; Mercosur at 24.21 in 1994; NAFTA at 58.02 in 1994.

In Table 1, three agreements stand apart. SACU, the oldest customs union in the world, is the only full customs union with revenue sharing among African RTAs, so there is no need for costly-to-meet rules of origin (RoO). Established by a colonial power, it is not replicable and hence, not considered further. With a high dependence on oil revenues and exports of services and shared religious beliefs, the GCC is also deeply integrated even though progress towards a monetary union is stalled—because of its low applicability elsewhere, it is not covered here. Due to its membership in the franc zone, UEMOA and ECOWAS members share a common currency, and have achieved deeper integration. Since monetary unions figure prominently among African PTA objectives, UEMOA is kept for discussion, but in all statistics, ECOWAS will only include non-UEMOA members. This leaves us with a focus the following six agreements: COMESA, EAC, ECOWAS (minus UEMOA members), UEMOA, PAFTA, and SADC.[5]

Table 1 also gives two indicators that capture characteristics important in explaining the dilemma facing African RECs. First it indicates when a country is landlocked to reflect that landlocked and coastal countries have opposite interests as coastal members wish to control (and hence raise costs) of goods crossing their territories. Next is the Trade Complementarity Index (TCI), a measure of the gains from trade (a high/low) value for the index indicates that the two countries have great (low) gains from trading with each other as the two countries exhibit (do not exhibit) complementarity. The low values of these indices, compared to those of other RTAs mentioned in Table 1, point to negligible efficiency gains from specialization-induced gains through inter-industry trade. On a world-wide basis, measures of intra-industry trade are also the lowest for African RTAs (Brulhart 2009).

3 Efficiency, geography, and politics in African regional agreements

The literature on regionalism has shifted from early emphasis on efficiency, to the political economy of preferential versus multi-lateral trade liberalization and more recently to the possibility that regionalism could undermine multi-lateralism (Freund and Ornelas 2010). In Africa however, political motives, geography, and the distribution of gains across FTAs trump the traditional efficiency effects first discussed by Viner (1950). We review them here.

3.1 The political dimension

The prevalence of conflicts in Africa's recent history points to the importance of political motives in the region's recent PTA history. As put by the government of Rwanda, its trade strategy is to promote 'regional integration and cooperation' (underline added) and in the case of ECOWAS, the Community of States has the '… the responsibility of preventing and settling regional conflicts' (cited in Melo and Collison 2011). Establishing a regional trade bloc can provide security and confidence to build supra-national institutions that will deliver regional public goods as was done in the European Community over a half-century starting with the European Steel and Coal Community (ESCC) in 1953.[6]

[5] Five of the six CEMAC members are petroleum exporters while none are among UEMOA members. In its tally of 14 African RECs, WTO (2011: 152) states that nine have a full economic union as the specified objective, one aims for a Common Market (COMESA), while the remaining ones aim for FTA status. The optimism in reaching these objectives is exemplified by SADC's timetable: reach FTA status by 2008, a CU by 2010, a common market by 2015, a monetary union by 2016, and a single currency by 2018.

[6]. Shortly before signing of the ESCC, Robert Schuman, then French Minister of Foreign Affairs said in a speech on [9] May 1950 that: 'Through the consolidation of basic production and the institution of a new High Authority, whose

Oates (1972) tells about the costs and benefits of common policies: A trade-off between the benefits of common policies which depend on the extent of cross-border policy spillovers and their costs, which depends on the extent of policy preference differences across member countries. Common decision making internalizes the spillovers but it moves the common policy away from its preferred national policy (i.e. a loss of national sovereignty). In Africa, spillovers are important as transport and communications infrastructure are under-provided, but the ethno-linguistic diversity across 'artificial' borders suggests strong differences in policy preferences hindering the supply of public goods through the adoption of common regional policies.

The experience of RTAs around the world supports the view that economics and politics are complements (rather than substitutes as argued by the defenders of multi-lateralism). RTAs reduce the probability of war through two channels. First, trade-creating exchange takes place, increasing the opportunity cost of war. Second, as political scientists have argued, sufficiently deep RTAs reduce information asymmetries as partners know each other better. Then incentives for countries not to report their true options in an attempt to extract concessions are reduced. Discussions among members spill over to political issues diffusing political disputes that could escalate into political conflicts. These two channels reduce the probability of costly conflicts. By the same token, globalization which involves a shift of trade towards distant partners reduces this opportunity cost increasing the likelihood of conflicts. Martin et al. (2012) build these insights in a bargaining model where rational states will enter into an RTA if the expected economic gains from trade creation and the security gains resulting from decrease in the probability of disputes degenerating into war exceed the political costs of entering the RTA.

Martin et al. (2008) find that increased bi-lateral trade deters bi-lateral war because it increases the opportunity cost of war while multi-lateral openness has the opposite effect. In subsequent work, Martin et al. (2012) find support for their theory of PTA formation: Country-pairs with large economic gains from RTAs and high probability of conflict are more likely to sign an RTA. Although their data set does not include African countries, the findings should apply to the predominantly intra-regional African PTAs (that is why they are often called RECs) even though the opportunity cost of war would be small for countries that trade little. Viewed in this light, the costs associated with negotiating the deep African RTAs (SACU, CEMAC, and UEMOA) have been borne by colonizers. Increased trade among members then raised the opportunity cost of future wars among members by increasing their inter-dependence. Guillaumont (2013) reports that franc zone members have had about half as many yearly conflicts as other SSA countries.

3.2 Geography

Country size, remoteness, uneven distribution of natural resources, and associated rents were not considered in the evaluations of the first wave of African RTAs.[7] Meanwhile the diagnosis of

decisions will bind France, Germany and the other countries that join, this proposal represents the first concrete step towards a European federation, imperative for the preservation of peace.'

[7] Limão and Venables (2001) were the first to provide orders of magnitude of the importance of infrastructure and geography on trade in Africa when they showed that 50 per cent of the difference in shipping costs for a standard 40 foot. container across destinations was accounted for by differences in the quality of infrastructure. In addition to confirming the high costs of being landlocked, they detected additional costs to overland distance (1,000 kilometers of overland distance added on average US$1,380 to container freight costs, against only US$190 by sea) for landlocked countries compounded by border delays, uncertainty, higher insurance costs, and charges by transit countries. Their key finding was that 'hard' infrastructure accounted for nearly half of the transport cost penalty borne by intra-SSA trade. This change of diagnosis from the under-trading found by Foroutan and Pritchett (1993)

Africa's lagging performance was shifting from a discussion of external versus internal constraints (Collier and Gunning 1999) towards the role of physical and economic geography (Gallup et al. 1999; Collier and Venables 2009; and Venables 2011). Regional integration implications of this emphasis on geography are stark.

Consider first size and scale effects. African economies are usually small, resulting in monopoly power. Price-cost margins will be higher for many growth-related activities. Transport cartels will raise further already high transport costs (Teravaninthorn and Raballand 2008). Credit will be more expensive because of a monopolized banking sector. Savings will generate small increases in the capital stock because of the high relative price of investment goods in gross domestic product (GDP) resulting from market power.[8] Larger cities are also known to result in higher productivity through a variety of channels (lower transport and communication costs, greater competition, etc.). Taking into account that country population and country area determine city size, citing evidence that a doubling of city size in developed countries is estimated to raise productivity by three to eight per cent, Collier and Venables (2009) estimate that combining ten countries in which the largest city has three million people would lead to a country with the largest city having a population of 19 million, over six times more than the largest city in the fragmented countries. Emphasizing the benefits from a larger population and less instability, Guillaumont (2013: 280) estimates that if each of the CEMAC and UEMOA CUs had been integrated into a single economy over the period 1976–2011, average annual per capita income growth in CEMAC [UEMOA] would have been higher by 1.7 [1.9] percentage points, respectively.

Diminishing returns to resource extraction and remoteness also point out to large gains from integration as, more than elsewhere, African PTAs involve countries with very different characteristics in terms of access to resources. Take PAFTA, a mix of resource-poor (Djibouti, Egypt, Morocco, Sudan, Tunisia) and resource-rich (Bahrain, Kuwait, Oman, Qatar, and United Arab Republic) countries. Take also the EAC, a mix of coastal (Kenya and Tanzania) and remote landlocked members (Burundi, Uganda, and Rwanda). As shown in Table 1, Africa has 15 landlocked countries largely specialized in natural-resource-based production patterns that, unlike footloose manufactures, face diminishing returns. Remoteness coupled with sharply diminishing returns for resource-based exports results in a low-supply response to regional integration initiatives explaining the small response of trade shares to reduction in trade barriers in Table 2.

As pointed out by Collier and Venables (2009), these are the circumstances when regional integration has the highest payoff. Consider the implications of diminishing returns and the lack of foreign exchange. Take two identical isolated economies with a fixed labour supply and a foreign exchange constraint—their isolation preventing them from entering footloose activities. Were they to integrate, their size would double and their output would increase and the brake of diminishing returns would be pushed back. Next consider isolation where one partner is landlocked and the other is a coastal partner having access to an activity for the world market that is not subject to diminishing returns. The coastal partner's wage will be set by the world price for the footloose activity while the wage for the landlocked partner will be lower, determined by labour supply and diminishing returns. Migration from the landlocked to the coastal economy would close the wage gap and bring efficiency gains. Large migratory

was also confirmed by Coulibaly and Fontagné (2006) for aggregate and disaggregated trade flows in West Africa, predicting that if all roads were paved in the region, trade would almost treble.

[8] Collier and Venables (2009) report results by Caselli (2007) that after controlling for GDP per capita, increasing labour force by a factor of ten reduces the relative price of investment by ten per cent.

movements have indeed taken place in Africa but, in the absence of deep integration, the non-citizen status acts like a border for trade in goods, giving rise to a political backlash all the stronger in Africa's ethnically fragmented environment.

3.3 Efficiency and distributional effects

Evaluations of the first phase of African RTAs reviewed by Foroutan (1992) were largely concerned with Viner's (1950) trade creation (TC) and trade diversion (TD) effects resulting from the second-best nature of discriminatory trade liberalization. In the African context, the consensus was that TD was likely to dominate TC for several reasons. First, preferences were granted among partners with very limited supply capabilities so that the partner receiving preferences would not be able to displace entirely third-country exports, a prerequisite for a welfare-improving change since price in the partner granting preferential access would remain unchanged. Second, there were large cost differences between the most efficient members in the group and the lowest-cost external producers resulting either in no effect from granting preferential access—or negligible effects on intra-regional trade (see Figure 2 and Table 2). And in the case of discernible trade effects, these large cost differences would all but guarantee that the net effect would be welfare-reducing as the TD effects resulting from subsidizing the inefficient partner would dominate any TC effect via a lower price on domestic markets. As discussed in Melo et al. (1992), recognizing the benefits from the possibility of exploiting economies of scale would still not be enough for preferential trade liberalization to trump non-discriminatory liberalization, uni- or multi-lateral.

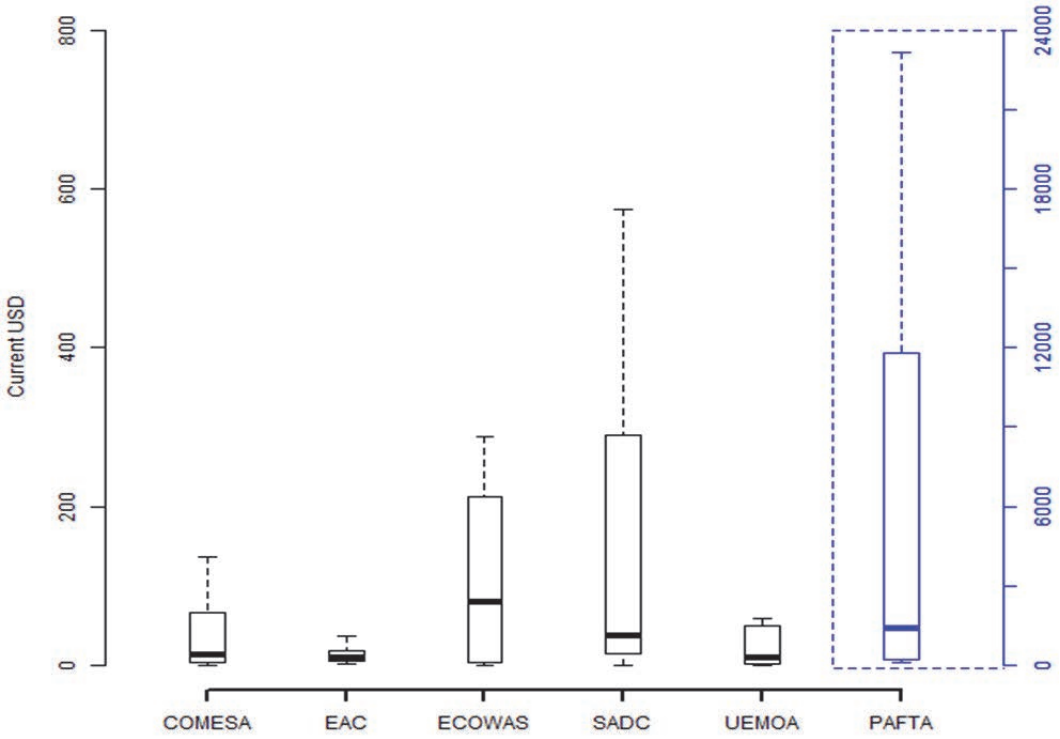
Viner's(1950) analysis was most relevant for 'similar' economies where cost differences were not too pronounced so the choice of a partner did not matter much as there was scope for the pro-competitive, scale, rationalization, and increased variety gains associated with an increase in intra-industry trade to take hold. These are the large gains that were only recognized in the 'new trade theory' of the 1980s inspired by the success of European integration that resulted in intra-industry rather than inter-industry specialization. In the African context, none of these gains materialized as inter-industry trade remained low and intra-industry trade continued to be non-existent (Brulhart 2009). Moreover, whatever limited increase in trade between members, distributional effects were likely to be large which explains why, in the absence of compensatory funds, integration efforts were abandoned. Two channels were at play.

First was a likely divergence in incomes across partners rather than a convergence as was observed during the successive waves of European integration. Even though many factors contribute to the world's ranking by per capita income, there is a tight fit between a per capita ranking of countries and one according to their physical or human capital per worker. Consider then an FTA between two Northern countries, France and Portugal, both above the world's average per capita income (and hence capital-labour endowment) and two Southern countries, Kenya and Uganda, both below the world average capital-labour endowment. As shown by Venables (2003), an FTA between Kenya and Uganda will be trade-diverting as Uganda will substitute low-cost Northern manufactures by high-cost Kenyan manufactures while Kenya will benefit from the low-cost imports of agricultural products from Uganda. By contrast, by the same reasoning, an FTA between the two Northern partners will close their income gap as Portugal benefits from France's low-cost manufactures while France shifts towards Portugal's relatively costly agricultural products.[9] So if the members of an RTA cluster have economies

[9] The collapse of the EAC (Kenya, Uganda, and Tanzania) in 1977 has often been attributed to Uganda and Tanzania perceiving they were not getting a fair share from the customs union. Schiff and Winters (2003) discuss other factors impinging on the efficiency implications of partner choice.

performing above average, the forces of agglomeration will prevail and convergence will occur as resources flow to the weaker members as has happened with European Union (EU) integration. But in a cluster with no strong economies, perhaps in part because of weak institutions, resources will flow to the strongest member in the group, resulting in divergence.

Figure 2: Fuel, ores, and metals exports per capita by RTA groups (2012 US$)



Source: Authors' calculations from World Development Indicators (World Bank 2013).

Take now an FTA between a landlocked country, with very limited access to world markets so it can only hope to sell to its geographically close neighbour, and a partner that is less isolated with relatively more natural resources. These two countries are price-takers on world markets but, because of its lesser neighbourhood isolation, under preferential access the landlocked country could trade a range of products with its neighbour. Then, as shown by Venables (2011), an FTA between the two will lead to trade creation for the relatively resource-poor landlocked country whose terms of trade will improve while the resource-rich partner will experience trade diversion. Estimates by Carrère et al. (2012) for PAFTA support these predictions: Once controlled for other determinants of trade in a panel gravity model, they show TC effects for the resource-poor members and TD effects for the resource-rich members.

Figure 2 displays a boxplot of per capita values of exports of fuels, ores, and metals for the six REC groups. It shows a very large disparity in per capita US$ values of fuel and ores across countries in different groupings (raising difficulties regarding integration within the different RECs, and even more so across the different RECs as intended in the Tripartite Agreement discussed later on) and also among members in any group. As discussed below, this is a situation when the gains from economic integration would be greatest, but at the same time the most difficult to achieve because of opposing interests between members.

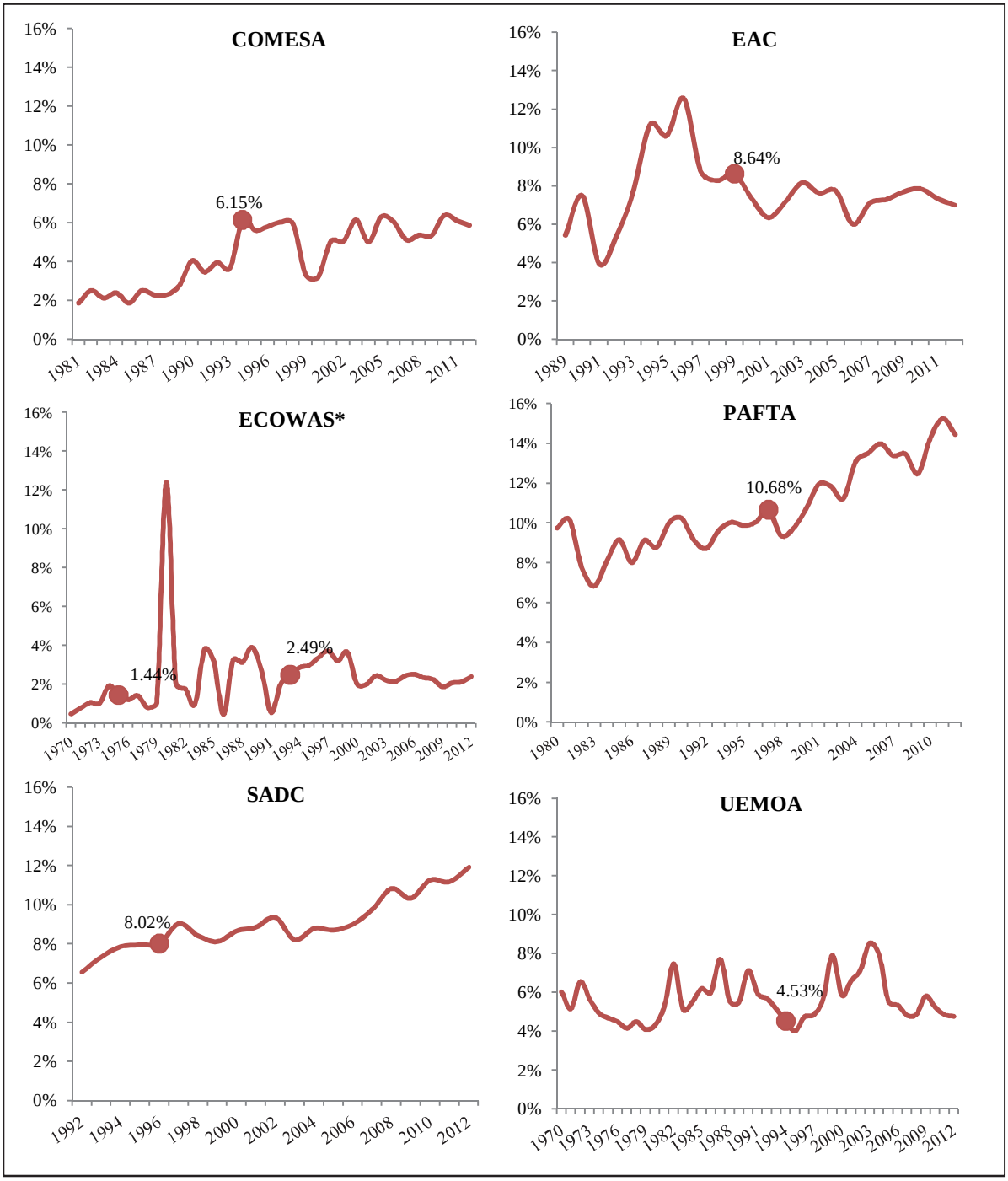
4 African regional integration: any effects on trade?

Many studies (e.g. Wacziarg and Welch 2008) have shown that trade, investment, and growth have increased following reductions in protection. However, with great volatility in growth coupled with external and internal shocks, detecting any growth effects of African RTAs has so far proved elusive. Even in the case of the deep integration in UEMOA, when compared with other non-oil exporting SSA countries, Guillaumont (2013) fails to find lasting differences in growth rates over the last thirty years. [10]

The first expected effect of a PTA is an increase in trade among members via three channels. The first is a reduction in tariffs between members; the second is a reduction in Non-tariff Barriers (NTBs); the third, and hardest to apprehend, is via the two components of 'trade facilitation: a 'hard' component related to tangible infrastructure such as ports, roads, highways and telecommunications; and a 'soft' component related to transparency, customs management, the business environment and other intangible institutional aspects that affect the ease of trading. The first two are the outcome of measures taken under 'shallow' integration and are easier to capture than the third which is associated with 'deep' integration. Because the data on trade patterns only reveals the outcome of all measures taken (and other intervening factors), it is difficult to disentangle effects due to regional trade policies from those due to trade facilitation that could be undertaken on a regional or unilateral basis. Together, these three channels make-up trade costs whose outcome is revealed in trade data. Evidence on these three channels is now reviewed moving from descriptive patterns to model-based estimates.

[10] We restrict discussion to ex-post studies. Examples of results from ex-ante computable general equilibrium (CGE) simulation models are discussed in Schiff and Winters (2003). Tarr and Rutherford (2010) estimate that gains from liberalization of the services sector in Tanzania would be large with the largest gains coming from unilateral trade liberalization.

Figure 3: Evolution of the share of intra-regional imports to total regional imports



Source: DOTS, IMF (2013).

Notes: The red dot on the plot line in each panel indicates the agreement's implementation date (and when the organization becomes active for ECOWAS); UEMOA countries are excluded from ECOWAS. Spike in ECOWAS import share in 1980 was due to zero import activity in Nigeria that year.

4.1 Reduction in trade barriers: trade creation and trade diversion effects

Figure 3 traces the evolution of intra-regional trade shares in GDP around the time of the implementation of the RTA. These intra-regional trade shares are volatile (hence two-year averages for the figures reported in Table 2) and usually low (below ten per cent or about one-tenth of the trade of extra-bloc trade) with only PAFTA and SADC showing rising trends. As a

comparison, excluding the EU, the share of intra-RTA trade worldwide rose from 18 per cent in 1990 to 34 per cent in 2008 (from 28 per cent to 51 per cent if EU included) (WTO 2011, Figure B6). Moreover, compared with other gravity-based estimates of the increase in bi-lateral trade upon entry into an FTA—between 37 per cent for Martin et al. (2012) and 68 per cent for Baier and Bergstrand (2007)—these increases in trade are small.

Disentangling between TC, i.e. increasing the volume of trade with a partner that is already a low-cost supplier, and TD, i.e. increasing the volume of trade with a partner that is not the low-cost supplier, requires looking at the numbers more closely since any increase in intra-bloc shares in Figure 2 could come from either (or both) TC and TD. A substitution of extra-bloc imports by intra-bloc imports following the removal of internal barriers to trade would result in an increase in intra-bloc trade shares and this could be the result of TD.

Table 2 reports the evolution of several trade indices. No clear pattern emerges across the RECs. Reflecting the low share of intra-bloc imports, the extra-bloc shares in GDP are low, increasing marginally in only a few cases (by comparison, the elasticity of world trade to world GDP rose from around two per cent in the 1960s to 3.4 per cent in the 2000s). Each group was also characterized by large differences in import shares in GDP (column 3) around the time of implementation. Columns 4 and 5 report trade intensity indices, a first counterfactual at attempting to capture what might have happened in the 'anti-monde'. As they are the ratio of trade shares, in the absence of preferential agreements, they should not change much. In Table 2, intra-bloc and extra-bloc trade intensities rise sharply for ECOWAS, SADC, and UEMOA. So, over the seven year period around the agreement, the increase in the share of GDP spent on imports from members (intra-bloc) and on non-members (extra-bloc) rose more than the increase in nonmember shares in world trade. The EAC is the only bloc where extra-bloc trade intensity fell suggesting the possibility of trade diversion. Finally, the trade propensity indices in columns 6 and 7 capture the joint effect of any bias in trade patterns and the effects of RTAs over trade volumes since they are the product of the trade intensity indices and the openness ratio. Sharp increases are observed for all groups except PAFTA, suggesting an overall increase in openness, but not directly attributable to RTA implementation.

Table 2: Trade effects of RTAs in Africa, two years before and five years after implementation dates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Import/GDP (%)			Trade Intensity		Trade Propensity		Average Distance of Trade		
RTA	Extra-bloc Imports	Total Imports	Imports (Max. Min)	Intra-bloc	Extra-bloc	Intra-bloc	Extra-bloc	ADOT	ADOT_P	ADR
COMESA										
1991-2	18.0	18.6	(69.6 , 6.8)	9.9	191.8	1.1	21.6	6037.7	9553.7	0.61
1997-8	18.5	19.4	(82.4 , 5.9)	7.5	164.1	1.4	31.1	6142.8	9617.9	0.63
EAC										
1997-8	18.0	20.0	(24.8 , 12.9)	199.9	655.8	20.3	66.5	5972.5	9562.0	0.63
2003-4	20.4	23.9	(30.4 , 19.4)	279.4	615.0	31.1	68.4	4850.6	9189.5	0.53
ECOWAS										
1991-2	36.5	37.0	(47.4 , 7.7)	5.3	226.2	1.6	67.5	5116.1	8207.7	0.62
1997-8	34.5	35.7	(45.7 , 17.3)	10.3	315.4	3.7	113.3	5928.5	8303.6	0.71
PAFTA										
1995-6	22.5	25.0	(63.5 , 9.1)	3.9	39.7	1.2	11.9	4428.8	7052.0	0.61
2001-2	19.9	22.6	(53.0 , 14.2)	3.9	41.5	1.2	13.2	5030.7	7339.6	0.67
SADC										
1994-5	18.1	19.7	(76.1 , 13.6)	11.4	107.7	2.4	22.3	7144.5	10574.7	0.68
2000-1	19.6	21.5	(58.9 , 12.5)	15.3	147.8	3.9	37.8	7530.3	10316.3	0.73
UEMOA										
1992-3	19.5	20.6	(56.5 , 7.6)	74.9	604.6	12.1	97.6	5096.2	8199.1	0.62
1998-9	22.9	24.6	(50.3 , 9.8)	96.9	701.6	21.3	154.3	5239.4	8072.4	0.65

Source: Authors' calculations from DOTS, IMF (2013).

Notes: UEMOA countries are excluded from ECOWAS. Except for ADOT measures, all figures are average of t-1 and t-2, and average of t+4 and t+5, i.e. two years before and five years after implementation, respectively. For average distance of trade (ADOT) ratios, averages of t+9 and t+10 (10 years after implementation) are used; average distance ratio (ADR).

Each RTA group g has n members indexed over i and j and k is an index over the whole sample,

$$\left(i, j = 1,\cdots, g, k = 1,\cdots n; X_i = \sum_k x_{ik}\,; X_w = \sum_i \sum_k x_{ik}\right).$$

Trade Intensity Index is $TII_g = \frac{1}{n}\sum_i TII_i\,; TII_i = \frac{\sum_j x_{ij} / X_i}{\sum_{k \notin g} \sum_j x_{kj} / X_w}$.

Trade propensity (TP): is $TP_g = \frac{1}{n}\sum_i TP_i\,; TP_i = TII_i * \frac{X_i}{Y_i}$.

Average distance of trade in year t ($ADOT_t$) for RTA group g is given by the un-weighted average across n members, $ADOT_g^t = \frac{1}{n}\sum_{i \in g}\sum_j \frac{x_{ijt}}{X_{wt}} D_{ij}$ where X_{ijt} are exports belonging to an RTA and j all partners t, X_{wt} are world exports in t, and D_{ij} is distance (in kilometers) between i and j, where i and j are each country within the respective RTAs. The potential average distance of trade $(ADOT_g^{p,t})$ or ADOT_P is given by the volume of trade predicted by GDPs and distance between partners

$$ADOT_g^{p,t} = \sum_{i \in g}\sum_j \frac{X_{ijt}^p}{X_{wt}^p} D_{ij} \quad ; \quad X_{wt}^p = \sum_i \sum_j X_{ijt}^p \quad ; \quad X_{ijt}^p = \sum_i \sum_j \frac{Y_{it} Y_{jt}}{Y_{wt}}.$$

The average distance ratio for group g is given by $ADR_g^t = ADOT_g^t / (ADOT_g^{p,t})$

The outcomes observed in Table 2 reflect changes in internal versus external-trade costs and in external-trade costs across partners. So when countries enter into an RTA, other changes may be taking place, including a reduction in their external- and internal-trade costs and also in their trade costs with non-RTA partners. Most of these changes can be captured by estimates from the gravity model estimates reported later, but a preliminary look at the data is also useful. Since countries choose their trade partners so as to minimize trade costs, if trade costs with non-RTA partners fall more rapidly than with partners, (and this could be due to a fall in trade costs in the foreign country), then, on the plausible presumption that RECs are regional (the case for most African RTAs), the ADOT for RECs will rise rather than fall while the opposite will happen if it is trade costs among members that fall the most. Taking two-year averages, column 8 reports the evolution of the simple ADOT two years before signature and ten years after; the long time-period used is to give enough time for other trade facilitation measures to show up in the data. All RECs except the EAC show an increase of the ADOT (column 8), suggesting a 'death of distance' biased towards far-away partners.

In a further step towards a model-based prediction assume, along the lines of the well-accepted gravity model that, in a frictionless world, potential trade would be proportional to the trading partners' GDP. Then, multiplying GDPs by the distance between the partners and summing over all partners gives the frictionless gravity-predicted average distance of trade for country (or REC) *i*, denoted here as the potential distance of trade ($ADOT^{P}_{i}$). Averaging over members in a REC, gives a measure of the potential distance of trade. This measure (which takes a maximum value when all countries are of the same size) will increase when there is less dispersion in the group and over a long period when there is convergence in incomes. The evolution of this measure in column 9 indicates a slight convergence in only half of the RECs (COMESA, ECOWAS, and PAFTA).

If the gravity model is an adequate description of bi-lateral trade, and if integration fosters convergence in incomes among members, then the ratio of actual trade ($ADOT_i$) to potential ($ADOT_i^P$)—here called the average distance ratio (ADR_i)—is an indirect measure of trade costs: falling values of the ratio (i.e. a regionalization of trade and convergence) then reflects a decrease in relative trade costs and/or convergence in incomes. These ADRs displayed in column 10 are around 0.6, suggesting that, on average, these RECs trade 40 per cent less than predicted by gravity-related variables in a frictionless world. Figure 4 shows that the EAC is the only grouping displaying a regionalization of trade. For the others, the ratio increases (points above the 45^0 line). This could be due to a combination of factors including relatively less reductions in trade barriers regionally and/or a combination of reduction in trade barriers in extra-regional countries, or trade facilitation measures with greater cost reductions for extra-regional trade.[11]

[11] Rising ADRs do not inform on whether changes reflect larger volumes with existing partners (the intensive margin) or with new far-away partners (extensive margin). Carrère et al. (2013) discuss the so-called 'distance puzzle' revealed by gravity-model estimates suggesting that trade costs have been falling less rapidly in low-income countries, an observation corroborated by Arvis et al. (2013).

4.2 Gains from deep integration and trade facilitation: gravity-based estimates

The gravity model is the workhorse of the great majority of work on the effects of trade policies on trade flows. It is remarkably consistent with two strong stylized facts in the data: (i) exports rise proportionally with the size of the destination market and imports rise proportionately with the size of the origin country (both captured in the ADOT_P ratios defined and reported in Table 2); (ii) there is a strong negative relation between physical distance and trade (captured in the ADR measure in Table 2). It also turns out that 'structural' gravity (i.e. theory-consistent gravity, see Head and Mayer 2013) comes out of a large family of trade models. Three features make it very relevant to assess the trade effects of African RTAs. First, gravity underlines that a country's per capita income is closely related to the country's 'real market potential': Being close to Nigeria, Liberia should have a high market potential. Second, it lends itself to the incorporation of trade costs indicators beyond bilateral distance so that it can capture the bilateral trade effects of any reduction in trade costs. So Liberia, a close neighbour to Nigeria, will have a smaller market potential than Belgium, another small country because of high trade impediments in Nigeria. Liberia's market potential will also be low if Liberia's capabilities are low, perhaps because of deficient hard and soft infrastructure. Third, dummy variables can control for other important determinants of bilateral trade: common border, common language, landlocked, etc. Importantly for any appraisal of RTAs, dummy variables that capture membership in an RTA or in a monetary union have routinely been incorporated in many applications of the gravity model that have been assembled in several meta-analyses.

Head and Mayer (2013) report two robust results from their compilation of estimates from a large number of gravity models. First, dummy variables for FTA membership are always statistically significant (median coefficient of 0.28 implying an FTA-induced increase in trade of 32 per cent after controlling for other intervening factors). The trade effects of common currencies have larger positive coefficients. In general, high standard errors indicate that these coefficients are not estimated precisely due to problems of endogeneity, missing variables and the choice of econometric techniques to handle the large number of zeroes in the data. As an example, these estimates are confronted with the possibility of endogeneity as countries could be brought to sign a currency union because they trade a lot in the first place.[12] In another recent study of UEMOA, Carrère (2013) estimates that intra-regional trade for members is four times above gravity-predicted trade (trade creation) while extra-regional trade is 20 per cent less (trade diversion). She also establishes that the greater intra-regional trade associated with sharing a common currency comes from less volatility in bilateral exchange rates which accounts for 50 per cent of the increase in intra-regional trade. Finally, using a composite index for 'hard' infrastructure along the lines proposed by Limão and Venables (2001), she simulates the effects of a harmonization of the value of the infrastructure index at the regional level to the mean across partners, obtaining large increases in exports from harmonization of infrastructure.

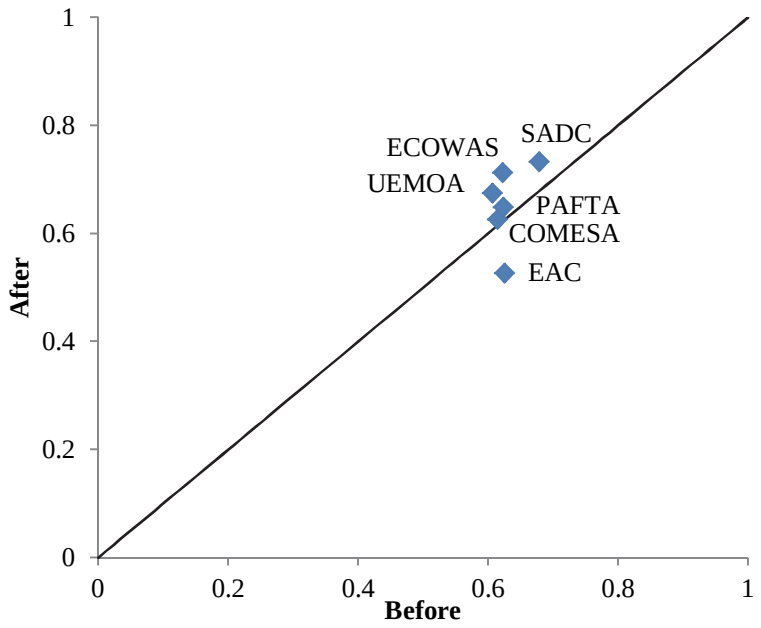
As with all effects captured by dummy variables or composite indices like those drawn from the many indicators in the World Bank's DB data base, one is not sure of the underlining links between the policy levers and the outcomes of interest captured in these results: having controlled for gravity covariates, is it better roads, rail, telecommunications, or a better-functioning regulatory environment that contribute most to the attributed increase in intra-regional trade? In another approach, taking inspiration from Engel and Rogers (1996), drawing on time series of prices of three agricultural commodities (millet, sorghum, manioc) across 142 markets in 15 national and regional markets in West Africa, Araujo-Bonjean and Brunelin (2013) find: (i) that a reduction in relative price differences through time across UEMOA members; (ii)

[12] Estimates are from Head and Mayer (2013, Table 4).

a larger variance in relative prices when markets are separated by a border; (iii) controlling for distance, a much stronger 'border effect' for country-pairs involving one UEMOA and one non-UEMOA country than for country-pairs involving two UEMOA countries.

The importance of logistics and delays in reducing trade of African countries also comes out from Freund and Rocha's (2011) study of African exports based on the shipping of a standard 40- foot container for a large sample of countries. They estimate that Africa's export volumes are 16 per cent below what is expected but that once the time-to-export is entered as a proxy for trade facilitation in a standard gravity trade model, the significance of the African dummy disappears in accounting for bilateral trade volume. A one-day reduction in inland travel time translates into a two percentage point decrease in all importing country tariffs. Of the three components of domestic delay (documentation, transit time, and port handling and customs clearance), they find that inland transit is the most important. Moreover, including global positioning system (GPS) travel time, which accounts for the quality of the road, does not affect the coefficient of the Doing-business inland transit-time, suggesting that the problem for inland transit is soft (border delays and/or efficiency of security checkpoints) rather than hard (quality of the road network) infrastructure. Institutions and soft infrastructure would then be more important than geography in accounting for Africa's low trade volumes.

Figure 3: ADR (simple averages), two years before and ten years after implemetation



Source: Authors' calculations from DOTS, IMF (2013).

These results reveal the shortcomings of the linear model of integration where behind-the-border measures aiming to reduce trade costs were largely ignored across African RECs. (Hartzenberg2011) While this is probably due to the difficulty in gaining the confidence necessary to get collection action on the move discussed earlier, many behind-the-border measures could still have been undertaken unilaterally. In complementary (also based on shipping costs of a standard container in a large cross-section of 110 countries including 22 African countries) cross-section estimates to those of Freund and Rocha (2011), and after having dealt with the high collinearity across the World Bank's Doing Business (DB) indicators by principal component methods, Portugal-Perez and Wilson (2012), estimate that cutting trade

costs half-way to the level in Mauritius would be equivalent to a 7.6 per cent cut in tariffs faced by Ethiopian exporters across all importers. They also find that the marginal effect of their transport efficiency and business indicators on exports decreases with income. While potentially informative, these cross-country estimates still suffer from the 'lack of internal validity' as they cannot really identify the effects of improvements in infrastructure net of confounding influences (Cadot et al. forthcoming).

5 Challenges ahead

Small fragmented and isolated economies with resources distributed very unequally among them make a compelling case for African countries to integrate regionally to reap efficiency gains, exploit scale economies, and reduce the thickness of borders. At the same time, as emphasized in this survey, in the absence of compensation mechanisms, the unequal distribution of gains has hampered progress. Moreover, until recently at least, regional integration in Africa was founded on a 20th century exchange of market access at the expense of outsiders and on the 'linear model of integration' that neglected the importance of tackling behind-the-border impediments to trade. With the reduction in trade costs and the subsequent fragmentation of production, 21st century regionalism is about a new bargain: an exchange of domestic market reforms for FDI which brings home the service activities necessary to participate in the global value chain. In this new environment, where trade is trade in tasks and involves increasingly an exchange of intermediate goods, protection (or exchange of market access) amounts to depriving oneself from participating in global outsourcing. It is against this changing background that Africa's 'old regionalism' building on exchange of market access has to be evaluated. Indeed, Asian regionalism has been characterized by 'race to the bottom' tariff-cutting to bring about the services needed to diversify and participate in international production networks (Baldwin 2011). This is why Africa's linear model of integration focussing on barriers to goods trade at the expense of trade in services, which has been growing far more rapidly than trade in goods, has been criticized (UNECA 2010).

Looking ahead, two developments are on the horizon. First are the pan-African hard infrastructure projects that finally tackle regional spillovers. Buys et al. (2006) carried out a cost-benefit analysis to explore the returns on a pan-African programme of road infrastructure development, estimating a pay-back of one year on the investment with US$254 billion of additional trade generated over the project's estimated lifetime at a cost of about US$32 billion. Successful large infrastructure projects will contribute to defragmenting Africa by reducing transport costs directly (Portugal-Perez and Wilson 2012; Brenton and Isisk 2012). Another channel emphasized here is the building of social capita through spreading of information, which should enhance trade and, hopefully, reduce the probability of conflicts.

Second is the African free trade zone or tripartite FTA among COMESA, EAC, and SADC that should help solve the overlapping membership dilemma by bringing free trade among the 26 members by: (i) removing tariffs and NTBs and implementing trade facilitation which will include a harmonization of RoO;[13] (ii) applying the subsidiarity principle to infrastructure to improve the transport network; (iii) foster industrial development. Signed in 2008, it is ambitious but not yet operational. However, as pointed out by Erasmus (2012), what was going to be a

[13] RoO are necessary to prevent 'trade deflection' in FTAs, i.e., importing from the low-tariff partner and selling in the high-tariff partner. Everywhere, RoO have been unnecessarily complex and have benefited the strong lobbyists of inefficient industries of the strongest partners in the FTA, see Erasmus et al. (2006) for an appraisal of RoO in SADC largely imposed by South African protectionist lobbies. SADC RoO are more restrictive than COMESA's.

'single undertaking' to establish a proper FTA is at risk by the setting up negotiating principles around a variable geometry that would allow the co-existence of different trading arrangements with small integrating effects.

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Contact
www.ferdi.fr
contact@ferdi.fr
+33 (0)4 73 17 75 30